

## ABSTRACT

It is intended to clarify heredity of the biosynthesis of flower pigments and the relationship between flower color heredities and pigment genotypes, thereby providing a method of crossing flower color genotypes which is practically available in creating a novel flower color. There is found out a novel rule that flower color genotypes relate to the biosynthesis of flavonoids represented by the pathway (I) and the heredities of flavonoid 3'-hydroxylase (F3'H) and flavonoid 3',5'-hydroxylase (F3',5'H) are controlled by 5 multiple alleles. As a result, it becomes possible to provide a method of producing a novel flower color with the use of genotypes D/d.E/e.H<X>H<X>.Pg/pg.Cy/cy.Dp/dp by which flower colors can be freely created based on flower pigment genotypes without resort to gene recombination or mutation caused by exposure to radiation, etc.